

In re Patent Application of:
DeSALVO ET AL.
Serial No. 09/724,256
Filing Date: 11/28/2000

REMARKS

Claims 1-31 remain in this application. No claims have been amended. Claims 3, 13, 25 and 31 have been previously amended in the Amendment filed on November 11, 2003.

Applicants thank the Examiner for the detailed study of the application and prior art.

Applicants acknowledge the allowance of claims 21-31 and the indication that claims 5 and 15 would be allowable if rewritten in independent form, including all the limitations of the base claim and any intervening claims.

Applicants also note the rejection of claims 1, 3, 6-8, 11, 13 and 16-18 as obvious over U.S. Patent No. 6,366,376 to Miyata et al. (hereinafter "Miyata") in view of U.S. Patent No. 5,854,704 to Grandpierre. Other claims were rejected as obvious over Miyata in view of Grandpierre, and further in view of U.S. Patent No. 5,943,147 to Vanoli et al. (hereinafter "Vanoli"); or Miyata in view of Grandpierre, and further in view of U.S. Patent No. 5,517,351 to Hatakeyama; or Miyata in view of Grandpierre, and further in view of U.S. Patent No. 6,304,357 to Ohhata et al. (hereinafter "Ohhata").

Applicants submit with this Request for Reconsideration a Supplemental Declaration Under 37 CFR §1.131 that is submitted to supplement the original Declaration Under 37 CFR §1.131 filed in response to the Office Action mailed August 13, 2003. That original Declaration conclusively showed that the inventors had conceived and reduced to practice the claimed invention before September 30, 1998, the effective date of U.S. Patent No. 6,384,948 to Williams et al.

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This Supplemental Declaration resubmits sheets 1-8 that were originally submitted in the previous Declaration and adds new sheets 01 and 1A. Sheet 01 is an earlier page from an inventor's laboratory notebook than original sheet 1, filed in the original Declaration. Sheet 01 shows an earlier date of conception such that prior to February 14, 1997, the effective date of the cited U.S. Patent No. 6,366,376 to Miyata, the inventors had conceived their invention that is described and claimed in this patent application while working in the United States in the Palm Bay, Florida facility of Harris Corporation. They worked diligently on developing the claimed invention from the time of conception to reduction to practice. This reduction to practice occurred at a date after February 14, 1997, but before September 30, 1998.

From the time of reduction to practice to the filing of the above-identified patent application, the Applicants worked diligently on developing a commercially feasible optically amplified receiver of the present invention. Initial conception drawings are thus shown as beginning with the laboratory notebook sheet 01 and continuing into sheets 1, 1A and 2 of Exhibit 1 attached to the Declaration Under 37 CFR \$1.131. Sheet 01 is the earlier sheet from the laboratory notebook and shows the initial conception drawing, with a WDM line having different wavelength signals. A portion of the signal branch is off into a separate line to an optical broadcast node shown by the large dot. This branch signal line passes through a first and second erbium doped fiber amplifier, i.e., an optical preamplifier. The optical communications signal is split through an optical beam multiplexer and passes through bandpass filters that receive

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and select a signal channel and filter out noise. A PIN detector shown as a diode receives the optical communications signal from the bandpass filter and converts the optical communications signal into an electrical communications signal.

Sheet 1A shows numerical figures about the variable erbium doped fiber amplifier preamplifier gain. Sheets 3-7 of Exhibit 1 show the development and the initial conception of the optically amplified receiver. As evident and as set forth in the previously submitted Declaration, Exhibit 1 clearly shows the work resulting in an optical preamplifier for receiving an optical communications signal over a fiber optic communications line. The bandpass filter receives the signal and selects the signal channel and filters out noise. A PIN detector receives the optical communications signal from the bandpass filter and converts the optical communications signal into an electrical communications signal. An amplifier circuit amplifies the electrical communications signal. Sheet 7 shows a technical memorandum that was written by one of the joint inventors.

Sheet 8 of the laboratory notebook in Exhibit 1 shows that the joint inventors reduced to practice the invention and tested the invention after February 14, 1997, but before September 30, 1998.

Dates are deleted from the exhibit sheets.

Applicants also note that the 131 Declaration also effectively removes Grandpierre having an effective filing date of June 25, 1997, and Ohhata having an effective filing date of March 13, 1998.

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As to the other cited references, such as Hatakeyama, Applicants note that Hatakeyama is directed to an optical receiver that uses a pumping laser diode controlled by the peak value and mark-space ratio value of an amplified signal to prevent a detection failure of a received clock caused by breakdown of a receiver photodiode for optical noise. It uses a simple timing extraction circuit and discriminator to overcome the disadvantages of conventional optical receiving circuits with automatic gain control operation. Hatakeyama addresses the problem associated with underestimating a light level by the mark-space ratio fluctuation, which leads to excessive application of injection current to a pumping semiconductor laser. Hatakeyama applies an injection current free of the influence of fluctuations in the mark-space ratio without causing breakdown over the photodiode. The automatic gain control/level fixation circuit supplies an injection current to a pumping semiconductor laser for induction in connection with a peak value detection output signal and a mark-space ratio detection output signal.

The present claimed invention, on the other hand, is directed to solving a different problem with optical receivers in rack-mounted units that commonly use avalanche photodiodes and have a receiver sensitivity power penalty resulting from optical insertion loss of an optical demultiplexer. The present claimed invention optimizes the system and incorporates components into a single assembly as an optically amplified receiver, allowing increased transmission distances over currently available technology, while reducing the volume of valuable equipment-rack space, and providing effective thermal management.

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Nowhere does Hatakeyama disclose or suggest the use of a bandpass filter to select any single channels and filter out noise. Hatakeyama also does not disclose or suggest the use of a PIN detector as in the present claimed invention. It is evident that Hatakeyama is directed to a different problem to be solved and nowhere suggests the present claimed invention or any of its components.

Although Vanoli may teach a wavelength division multiplexing system as argued by the Examiner, Vanoli is directed to a standard telecommunications system with a number of line amplifiers, splitters and receivers. Nowhere does Vanoli suggest the present claimed invention of an optically amplified receiver with the optical preamplifier, bandpass filter, PIN detector, and amplifier circuit as claimed in the present application.

Applicants contend that the present case is in condition for allowance. If the Examiner has any questions or suggestions for placing this case in condition for allowance, the undersigned attorney would appreciate a telephone call.

Respectfully submitted,



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Julie Lalan